

**REMARKS**

**DETAILED ACTION**

Claims 1-30 are presented for reexamination.

**DETAILED ACTION**

1. Receipt is acknowledged of Applicant's Prior Art Statements, filed September 17, 2001, September 24, 2001, and January 3, 2002, respectively. It is noted that the Prior Art Statement of September 24, 2001 is missing accompanying copies of the cited documents for citations numbered 1-3, 6-8, and 10. Thus, these references have not been considered.

Applicant respectfully acknowledges the Examiner not considering the cited citations numbered 1-3, 6-8, and 10 of page 3 of 5 of the Prior Art Statement submitted on September 24, 2001.

2. Receipt is acknowledged of Applicant's Preliminary Amendment, filed September 24, 2001.

Applicant respectfully appreciates Examiner's acknowledgement of the receipt of the Applicant's preliminary amendment filed on September 24, 2001.

**Rejections Under 35 U.S.C. 112**

3. The Examiner has rejected Claims 1-38 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3a. In claim 1, line 4 the phrase "a means for a gas delivery conduit" is deemed an improper use of, 'means-plus-function" language since no function is recited corresponding to the means.

Applicant has amended Claim 1, lines 4-5 as follows "~~a means for a gas delivery conduit, whereby the gas delivery conduit would be disposed within the chamber and extend into the mixing chamber~~".

Applicant believes claim 1, as amended, properly defines the claim as an apparatus claim, removing the "means plus function" verbiage. Applicant believes the rejection of Claim 1 under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been overcome by amendment B herein. Applicant respectfully requests the Examiner reconsider the rejection of Claim 1 under 35 U.S.C. 112.

3b. Similarly, in claim 1, line 9 "means for...tube" is without a functional recitation for the "means".

Applicant has amended Claim 1, lines 9-11 as follows "~~a means for an elongated particle-directing tube disposed external~~

to the chamber, a proximal end of the particle-directing tube in fluid communication with the discharge port".

Applicant has cancelled Claim 3, as Claim 3 has been incorporated into Independent Claim 1 by amendment herein.

Applicant has amended Depending Claims 4 and 5, previously depending from claim 3 such to reference Independent Claim 1.

Applicant believes claim 1, as amended, properly defines the claim as an apparatus claim, removing the "means plus function" verbiage. Applicant believes the rejection of Claim 1 under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been overcome by amendment B herein. Applicant respectfully requests the Examiner reconsider the rejection of Claim 1 under 35 U.S.C. 112.

*Other instances of improper means-plus-function language occur at:*

3c. Claim 10, line 9.

Applicant has amended Claim 10, lines 9-11 as follows "a ~~means for an elongated~~ particle-directing tube disposed external to the chamber, a proximal end of the particle-directing tube in fluid communication with the discharge port".

Applicant believes claim 10, as amended, properly defines the claim as an apparatus claim, removing the "means plus function" verbiage.

Applicant has cancelled Claim 13, as Claim 13 has been incorporated into Independent Claim 10 by amendment herein. Applicant has amended Depending Claims 14 and 15, previously depending from claim 13 such to reference Independent Claim 10.

Applicant believes the rejection of Claim 10 under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been overcome by amendment B herein. Applicant respectfully requests the Examiner reconsider the rejection of Claim 10 under 35 U.S.C. 112.

3d. Claim 20, line 9.

Applicant has amended Claim 20, lines 9-11 as follows "~~a means for an elongated particle-directing tube disposed external to the chamber, a proximal end of the particle-directing tube in fluid communication with the discharge port~~".

Applicant has cancelled Claim 26, as Claim 26 has been incorporated into Independent Claim 20 by amendment herein.

Applicant has amended Depending Claims 27 and 28, previously depending from claim 26 such to reference Independent Claim 29.

Applicant believes claim 20, as amended, properly defines the claim as an apparatus claim. Applicant believes the rejection of Claim 20 under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been overcome by amendment B herein. Applicant respectfully requests the Examiner reconsider the rejection of Claim 20 under 35 U.S.C. 112.

3e. Claim 29, line 9.

Applicant has amended Claim 29, lines 9-11 as follows "a ~~means for an elongated particle-directing tube disposed external to the chamber, a proximal end of the particle-directing tube in fluid communication with the discharge port~~".

Applicant has cancelled Claim 32, as Claim 32 has been incorporated into Independent Claim 29 by amendment herein. Applicant has amended Depending Claims 33 and 34, previously depending from claim 32 such to reference Independent Claim 29.

Applicant believes claim 29, as amended, properly defines the claim as an apparatus claim, removing the "means plus function" verbiage. Applicant believes the rejection of Claim 29

under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been overcome by amendment B herein. Applicant respectfully requests the Examiner reconsider the rejection of Claim 29 under 35 U.S.C. 112.

3f. In addition, in claim 20, lines 12-13 it is unclear whether the terms "gas stream" and "airflow" refer to the same fluid.

Applicant has amended Claim 20, lines 12-14 as follows "a self sealing mechanism, wherein the self sealing mechanism opens to allow a gas stream to flow into the handheld mixing chamber to provide airflow when exposed to a gas stream, and the self sealing mechanism seals and seal when not exposed to the gas stream airflow, whereby the self sealing mechanism is located between the gas receiving port and the mixing chamber.".

Applicant believes claim 20, as amended, more clearly and concisely defines the claim providing clarity to the elements "Gas Stream" and airflow". Applicants have deleted any reference to "airflow" and clarified the operations of the self-sealing mechanism.

Applicant believes the rejection of Claim 20 under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention has been overcome by amendment B herein. Applicant respectfully requests the Examiner reconsider the rejection of Claim 20 under 35 U.S.C. 112.

### **Rejections Under 35 U.S.C. 102**

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The Examiner has rejected Claims 1-5, 9-15, 19, 29-34, and 38 under 35 U.S.C. 102(b) as being clearly anticipated by Stark, et al. Stark, et al disclose an apparatus for propelling a stream of particulate matter comprising all of the subject matter set forth in the claims above. A compressed gas source is delivered to a mixing chamber through a gas receiving port, and mixes with abrasive within the chamber, followed by discharge through a discharge conduit to strike a target material. The limitation of the particle-directing tube being "bendable" is a functional limitation which is deemed sufficiently broad to read on the discharge tube of Stark, et al. While not shown as having a bend, the material in Stark is certainly capable of being bent.

Claims 1, 10, 20, and 29 are Independent Claims. Claims 1, 10, 20, and 29 have all been amended to include the limitation of:

"a mixing chamber having a sidewall, a gas receiving port at a first end of the chamber and a discharge end wall at an opposite end of the chamber and designed to be handheld;."

Further, each Independent Claim includes the preamble "Handheld apparatus for propelling particulate matter, the apparatus comprising:"

Stark discloses a device for treating dental castings, and is generally entirely unsuitable for use as a handheld apparatus. Applicant clearly defines the present invention as being handheld, both in the preamble and within the body of the claim.

Stark is limited as the apparatus taught is intended for preparing the surface of a dental inlay for a tooth which is not in the patient's mouth and requires a vacuum source and compressor. See Col 2, Lines 18-19. Applicant's invention does not utilize a vacuum source.

Stark lacks an elongated particle directing tube which is long and flexible enough for a dentist to be prepare various surfaces of a patient's tooth, behind teeth, back to the molars, and at various angles. Applicant's invention comprises "an elongated particle-directing tube disposed external to the

chamber, a proximal end of the particle-directing tube in fluid communication with the discharge port". Applicant's invention is clearly and concisely defined to address a handheld apparatus for applying particulate matter to a patient's tooth or other object positioned in a confined area.

Applicant respectfully directs the Examiner to Claim 10 of the parent application / Issued patent, USPN 5,839,946, Issued November 24, 1998. Stark was cited and overcome as prior art respective to the parent application. Applicant believes the four (4) Independent Claims herein are similar in scope to the issued Claim 10 of the parent application with the additional limitation of "a discharge conduit disposed within the chamber and extending in fluid communication from the discharge port towards the gas receiving port and whereby the gas delivery conduit and the discharge conduit overlap" providing a distinct and patentable claim.

Additionally, Applicant has submitted an affidavit and respective exhibits that Applicant believes clearly demonstrates Commercial Success of the present invention as defined by the Independent Claims 1, 10 and 29, more specifically the element of "a mixing chamber having a sidewall, a gas receiving port at a first end of the chamber

and a discharge end wall at an opposite end of the chamber and designed to be handheld" (emphasis on the handheld mixing chamber).

Applicant believes the rejection of Independent Claims 1, 10, and 29 under 35 U.S.C. 102(b) as being clearly anticipated by Stark, et al. have been overcome by amendments, remarks, and the Affidavit demonstrating Commercial Success herein.

Applicant earnestly requests the Examiner reconsider the rejection of Independent Claims 1, 10, and 29 under 35 U.S.C. 102(b) as being clearly anticipated by Stark, et al.

Applicant believes the rejected claims 2-5, 9, 11-15, 19, 30-34, and 38 (Noting Claims 3, 13, and 32 have been cancelled herein) under 35 U.S.C. 102(b) as being clearly anticipated by Stark, et al. have been overcome as the rejected claims depend directly or indirectly from the Independent Claims 1, 10, and 29. Claims 2-5 and 9 depend directly or indirectly from Independent Claim 1. Claims 11-15 and 19 depend directly or indirectly from Independent Claim 10. Claims 30-34 and 38 depend directly or indirectly from claim 29. Applicant believes the rejection of independent Claims 1, 10, and 29 have been overcome by amendments and remarks herein. Applicant earnestly requests the Examiner reconsider the rejection of depending

claims 2-5, 9, 11-15, 19, 30-34, and 38 under 35 U.S.C. 102(b) as being clearly anticipated by Stark, et al. based upon the amendments and remarks respective to the Independent Claims herein.

### **Rejections Under 35 U.S.C. 103**

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The Examiner has rejected Claims 6-8, 16-18, and 35-37 under 35 U.S.C. 103(a) as being unpatentable over Stark, et al in view of Dougherty. Dougherty discloses the known use of color coding of containers to identify the contents therein, and further disclose the known use of an end cap (70) for sealing the discharge end of a chamber to prevent the contents from being discharged. The use of color coding to help identify the contents of the chamber would have been obvious in view of Dougherty. Such color coding is used throughout industry for discriminating between similar looking containers, and for identifying their contents. To further provide an end cap at the distal end of the discharge conduit to prevent inadvertant discharge of the media from the chamber when not in use, would have been obvious in view of Dougherty.

Applicant believes the rejected claims 6-8, 16-18, and 35-37 under 35 U.S.C. 103(a) as being unpatentable over Stark, et al in view of Dougherty have been overcome as the rejected claims depend directly or indirectly from the Independent Claims 1, 10, and 29. Claims 6-8 depend directly or indirectly from Independent Claim 1. Claims 16-18 depend directly or indirectly from Independent Claim 10. Claims 35-37 depend directly or indirectly from claim 29. Applicant believes the rejection of independent Claims 1, 10, and 29 in view of Stark, et al. have been overcome by amendments and remarks herein. Applicant earnestly requests the Examiner reconsider the rejection of depending claims 6-8, 16-18, and 35-37 under 35 U.S.C. 103(a) as being unpatentable over Stark, et al in view of Dougherty based upon the amendments, remarks, and affidavit demonstrating Commercial Success respective to the Independent Claims herein.

8. Claims 20-21, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stark et al in view of Trafton et al. In-as-much as Applicant is only entitled to the filing date of the CIP application for the new subject matter directed to the self-sealing mechanism recited in claim 20, the Trafton et al reference is deemed to constitute prior art against this set of claims. Trafton et al disclose a self-sealing one-way valve located within the chamber

upstream of the gas receiving port. To provide such a one-way valve in the chamber of Stark et al upstream of the gas receiving port, to prevent backflow of media would have been obvious in view of Trafton et al.

Applicant recognizes the disclosure of new matter respective to the self-sealing mechanism within the CIP, filed August 27, 2001. Applicant respectfully thanks the Examiner for recognizing the newly disclosed matter referenced to the filing date of the CIP.

Applicant has submitted an affidavit (Timeline for Inventorship) and respective evidence under 37 C.F.R. 1.131 herein providing that the Applicant pertaining to the present invention subject to Claims 20-28 that predates the July 26, 1999 filing date of Trafton, et al.

Applicant is not claiming the same invention as Trafton, et al. Applicant believes he has provided and substantiated the date of conception / inventorship, due diligence and reduction to practice with the said affidavit. Applicant's application was filed on August 27, 2001, prior to one year after the March 12, 2002 issue date of Trafton, et al. Applicant therefore believes the Applicant is within the statutory guidelines and has overcome Trafton, et al. as an eligible reference.

Trafton teaches a removable plug allowing the system to be refilled. Applicant provides and taught a fixed, hemispherical plug which is a simpler concept providing for a lower number of moving parts and a lower manufacturing cost.

Applicant has submitted an Affidavit which demonstrates date of conception / inventorship (1/99), due-diligence and reduction to practice (4/99) which overcomes the July 26, 1999 filing date of Trafton et al. Applicant believes the rejection of Claims 20-21, and 26-28 under 35 U.S.C. 103(a) as being unpatentable over Stark et al in view of Trafton et al. has been overcome by the Affidavit submitted herein. Applicant earnestly requests the Examiner reconsider the rejection of Claims 20-21, and 26-28 (Noting Claim 26 has been cancelled herein) under 35 U.S.C. 103(a) as being unpatentable over Stark et al in view of Trafton et al.

9. Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stark et al in view of Trafton and further in view of Daubenberger et al. Trafton et al teaches to provide a check-valve in a location between the gas receiving port and the mixing chamber to prevent backflow of the abrasive media. Daubenberger et al disclose a check-valve for one-way flow of media through a passageway comprising a hemispherical-shaped flexible material having a slit which closes to prevent backflow of media through the valve. To provide such a conventional

hemispherical-shaped check-valve in the location taught by Trafton et al to prevent backflow of media while minimizing the number of moving parts prone to wear, would have been obvious in view of Daubenberger et al.

Applicant has submitted an Affidavit providing the date of Conception / Inventorship, due diligence, and reduction to practice which Applicant believes overcomes Trafton, et al. directly or indirectly as a reference for Claims 20-28.

Claims 22-25 depend from Independent Claim 20. Applicant believes the rejection of Independent Claim 20 in view of Trafton, et al. has been overcome by the Applicant's Affidavit submitted herein.

Applicant believes the rejection of depending claims 22-25 under 35 U.S.C. 103(a) as being unpatentable over Stark et al in view of Trafton and further in view of Daubenberger et al. have been overcome by the affidavit providing date of inventorship submitted herein. Applicant earnestly requests the Examiner reconsider the rejection of Claims 22-25 under 35 U.S.C. 103(a) as being unpatentable over Stark et al in view of Trafton and further in view of Daubenberger et al.

**CONCLUSIONS**

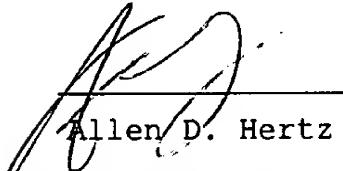
Applicants believe the amendments submitted herein, remarks, affidavits (Commercial success, Timeline of Inventorship), and respective exhibits submitted herein provide a complete response to the Office Action mailed on March 07, 2003. Claims 1, 2, 4-12, 14-15, 27-31, and 32-42 remain in the application. Applicant believes the remaining claims are in condition for allowance. Applicant earnestly requests the Examiner reconsider the rejections of claims 1, 2, 4-12, 14-15, 27-31, and 32-38 as well as allow depending claims 39-42 added herein.

The Examiner has established a shortened statutory period of three (3) months for response to the Office Action. Applicants have responded to the Office Action on or before July 07, 2003 with a proper certificate of correspondence. Therefore, the Applicants believe the response requires a request for one month extension. Applicant believes the response provided is complete. Applicant has enclosed fee of \$55 (2251 - small entity) under 37 C.F.R. 1.17(a)(1) for a one-month extension. Applicant earnestly requests the Examiner accept a request for one-month extension.

The present application, after entry of this amendment, comprises thirty-eight (38) claims, including four (4) independent claims. Applicant has already submitted sufficient fees with the original application for thirty-eight (38) claims, including four (4) independent claims. Applicant, therefore, believes that no additional fee respective to claims is currently due.

If the Examiner believes that there are any informalities that can be corrected by Examiner's amendment, a telephone call to the Agent of Record (Allen Hertz) at (561) 883-0115 (Office) (Please leave a message) or (561) 716-3915 (Cell phone) is respectfully solicited.

Respectfully submitted,



Allen D. Hertz

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Please submit all correspondence concerning this patent application to:

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**31877**

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